ABSTRACT

An active noise control system (100) increases system stability by modifying a spectral shaping path (112) to prevent unbounded growth in the system error. In one embodiment, a model of the physical path (114) within the spectral shaping path (112) is given a positive bias, encouraging the model to overestimate the actual characteristics of the physical path (114). In another embodiment, the gain in the spectral shaping path (112) is normalized so that the gain decreases as the system output increases, placing an upper bound on the output signal. By modifying the model or the gain in the spectral shaping path (112), the invention improves system stability by limiting the destabilizing effects of modeling errors on the system.

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